

1 **CLAIMS**

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3 1. A method of generating a filter graph for a user-defined processing
4 project, the method comprising:

5 analyzing the project for multiple accesses to a single source of media
6 content;

7 determining that the multiple accesses cannot be combined and/or share a
8 common processing chain; and

9 coupling a single instance of the media source to the one or more
10 processing chains through a software object to satisfy the multiple accesses
11 without invoking a commensurate number of multiple instances of the media
12 source.

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14 2. A method according to claim 1, further comprising:
15 receiving a request for content at the software object; and
16 issuing a seek command from the software object to the media source to
17 retrieve the media for presentation to a requesting processing chain.

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19 3. A method according to claim 1, wherein the method is implemented
20 by a render engine, exposed from an operating system to a media processing
21 system executing on a computing system.

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23 4. A method according to claim 3, wherein the software object is a
24 segment filter.
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1 5. A method according to claim 1, further comprising:
2 identifying multiple simultaneous access to the media source; and
3 invoking a commensurate number of software objects, coupling a
4 commensurate number of instances of the media source to processing chains to
5 satisfy the multiple simultaneous requests.

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7 6. A storage medium comprising a plurality of executable instructions
8 including at least a subset of which that, when executed, implement a method
9 according to claim 1.

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11 7. A computing system comprising:
12 a storage medium having stored thereon a plurality of executable
13 instructions; and
14 an execution unit, coupled to the storage medium, to execute at least a
15 subset of the plurality of executable instructions to implement a method according
16 to claim 1.

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18 8. A method of generating a filter graph for a user-defined processing
19 project, the method comprising:

20 analyzing the project for multiple accesses to a single source of media
21 content;

22 determining that the multiple accesses cannot be combined and/or share a
23 common processing chain; and

24 coupling a single instance of the media source to the one or more
25 processing chains through a software object to satisfy the multiple accesses

1 without invoking a commensurate number of multiple instances of the media
2 source, wherein the one or more processing chains comprise:

3 a scalable, dynamically reconfigurable matrix switch having a
4 plurality of inputs and a plurality of outputs;

5 at least one matrix switch input being communicatively linked with a
6 first processing chain portion;

7 at least one other matrix switch input being communicatively linked
8 with a second processing chain portion;

9 the matrix switch being configured to dynamically couple one or
10 more of the matrix switch inputs to one or more of the matrix switch
11 outputs.

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13 9. A method according to claim 8, further comprising:
14 receiving a request for content at the software object; and
15 issuing a seek command from the software object to the media source to
16 retrieve the media for presentation to a requesting processing chain.

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18 10. A method according to claim 8, wherein the method is implemented
19 by a render engine, exposed from an operating system to a media processing
20 system executing on a computing system.

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22 11. A method according to claim 10, wherein the software object is a
23 segment filter.

1 12. A method according to claim 8, further comprising:
2 identifying multiple simultaneous access to the media source; and
3 invoking a commensurate number of software objects, coupling a
4 commensurate number of instances of the media source to processing chains to
5 satisfy the multiple simultaneous requests.

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7 13. A storage medium comprising a plurality of executable instructions
8 including at least a subset of which that, when executed, implement a method
9 according to claim 8.

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11 14. A computing system comprising:
12 a storage medium having stored thereon a plurality of executable
13 instructions; and
14 an execution unit, coupled to the storage medium, to execute at least a
15 subset of the plurality of executable instructions to implement a method according
16 to claim 8.

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18 15. A method of generating a filter graph for a user-defined processing
19 project, the method comprising:
20 analyzing the project for multiple accesses to a single source of media
21 content;
22 determining that the multiple accesses cannot be combined and/or share a
23 common processing chain;
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1 coupling a single instance of the media source to the multiple processing
2 chains through a software object to satisfy the multiple accesses without invoking
3 a commensurate number of multiple instances of the media source; and

4 ascertaining whether the multiple processing chains share common pre-
5 processing attributes and, if so, interposing one or more associated filters between
6 the single source of media content and the software object.

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9 **16.** A method according to claim 15, further comprising:
10 receiving a request for content at the software object; and
11 issuing a seek command from the software object to the media source to
12 retrieve the media for presentation to a requesting processing chain.

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14 **17.** A method according to claim 15, wherein the method is
15 implemented by a render engine, exposed from an operating system to a media
16 processing system executing on a computing system.

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18 **18.** A method according to claim 17, wherein the software object is a
19 segment filter.

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21 **19.** A method according to claim 15, further comprising:
22 identifying multiple simultaneous access to the media source; and
23 invoking a commensurate number of software objects, coupling a
24 commensurate number of instances of the media source to processing chains to
25 satisfy the multiple simultaneous requests.

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2 **20.** A storage medium comprising a plurality of executable instructions
3 including at least a subset of which that, when executed, implement a method
4 according to claim 15.
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